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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,330	12/15/2004	Juan C. Figueroa	CL1759USPCT	6746

7590 10/02/2008
Thomas W Gorman
E I Du Pont De Nemours & Company
Legal Patent Records Center
4417 Lancaster Pike
Wilmington, DE 19805

EXAMINER

CHU, HELEN OK

ART UNIT	PAPER NUMBER
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1795

MAIL DATE	DELIVERY MODE
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10/02/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/518,330	Applicant(s) FIGUEROA ET AL.	
	Examiner Helen O. Chu	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/31/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. It is noted that this application claims benefit to prior filed application 60/393,351.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 8/31/2006 was filed. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Election/Restrictions

3. Applicant's election with traverse of species X = Nb in the reply filed on June 27, 2008 is acknowledged. The traversal is on the ground(s) that Xa are species of transitional metal elements and Applicants contend that the Examiner has merely made an unsupported conclusion in making this argument. As noted above, the number of species claimed in the present application is not unreasonable MPEP § 806.04(a). Applicants note that the species of element Xa are drawn towards nine transitional metal elements, and there is no serious burden on the Examiner in searching all of the species. This is not found persuasive because the compound PtX_aAl_b with a and b being variables can easily be over 30 different species. Please refer to MPEP § 806.04(a).

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 2-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the limitations of proton exchange membrane, substrate, type of fuel, gas diffusion backing does not further limit the claimed limitations of a catalyst

6. Claims 19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the limitations of type of fuel do not further limit the substrate.

Claims Analysis

7. Regarding claims 1-12, any limitations regarding the catalyst is given patentable weight, however, limitations regarding proton exchange membrane, substrate, type of fuel, gas diffusion backing does not further limit the structures of a catalyst in claims 2-11 and is therefore, not given patentable weight.

8. Regarding claims 13-20, any limitations regarding the substrate is given patentable weight, however, limitations regarding type of fuel does not further limit the structures of the catalyst in claims 19 and 20 and is therefore, not given patentable weight.

Claim Rejections - 35 USC § 102/103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-14, 21, 22 are rejected under 35 U.S.C. 102 (b) as anticipated by or, in the alternative, under 35 U.S.C. 103 (a) as obvious over Schulz et al. (US Patent 5,872,074).

Regarding claims 1-10, 12, the Shultz reference discloses a catalyst made of PtX_aAl_b wherein at least X_a is Nb and subscripts a and b is at least 1 (5; 15-25).

Regarding claim 3 and 11, the Shultz reference does not disclose a catalyst having an onset voltage for methanol electrooxidation of less than about 2410mV versus a saturated calomel electrode, however, since the catalyst as disclosed by the Applicants are the same as the disclosure of the prior art reference, the intrinsic and extrinsic properties must also be the same.

Regarding claims 13, 14, 21, 22, the Shultz discloses the reference discloses a fuel cell electrode (6;63-67) having a PtX_aAl_b catalyst wherein at least X_a is Nb and subscripts a and b is at least 1 (5; 15-25). Because the catalyst layer is on fuel cell electrode, the fuel cell electrode inherently has a diffusion layer on one surface of the electrode.

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11. It is noted that claims 1, 12, 13 are product-by-process claims such as vapor deposition or coated. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F. 2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Since catalyst is similar to that of the Applicant's, Applicant's process is not given patentable.

12. It is noted that claims 1, 11, 13 have "intended use" language and it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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14. Claims 15-20, 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schulz et al. (US Patent 5,872,074). in view of Gunner et al. (US Patent 5,939,220).

In regards to claim 15-20, 23-26, the Schulz et al. reference discloses the claimed invention above but does not disclose a carbon paper gas diffusion backing or carbon particles with PTFE, a perfluorinated sulfonic acid ion-exchange membrane, however, the Gunner et al. reference discloses that a fuel cell anode that uses a Pt-M alloy catalyst where M is selected from one or more metals (4:15-20; a similar teaching of the anode catalyst by Schulz et al.). The catalyst is preferably on carbon fibre paper substrate (1:45-50) with PTFE coated with a perfluorinated membrane (7-8:60-5). Another Nafion membrane is hot pressed against the anode to form an membrane electrode assembly (MEA; 8:15-30). The Dunner adds that this the fuel cell structure is sufficient in testing the performance of the voltage and current density relationships. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the platinum catalyst in a fuel cell anode as disclose Shultz in use with a combination of the anode structure and MEA structure which uses a similar catalyst on the anode as disclosed by Gunner et al. to conduct studies for a fuel cell thereby further advancing fuel cell technology.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen O. Chu whose telephone number is (571) 272-5162. The examiner can normally be reached on Monday-Friday 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HOC

/PATRICK RYAN/

Supervisory Patent Examiner, Art Unit 1795